



**[4910-13-P]**

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2013-0734; Directorate Identifier 2012-SW-080-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; Bell Helicopter Textron**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to supersede an existing airworthiness directive (AD) for Bell Helicopter Textron (Bell) Model 222, 222B, 222U, 230, and 430 helicopters. The existing AD currently requires inspecting parts of the main rotor hydraulic servo actuator (servo actuator) for certain conditions and replacing any unairworthy parts before further flight. Since we issued the AD, a new stainless steel piston rod has been manufactured. We propose requiring the installation of a servo actuator assembly with this piston rod and setting an interval for the next overhaul at 10,000 hours time-in-service (TIS) or 10 years, whichever comes first. The proposed actions are intended to detect pitting or penetration of the base metal of the piston rod that could lead to the piston rod's failure, the servo actuator's failure, and the loss of helicopter control.

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 60 days AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments by any of the following methods:

- **Federal eRulemaking Docket:** Go to <http://www.regulations.gov>. Follow the online instructions for sending your comments electronically.

- Fax: 202-493-2251.
- Mail: Send comments to the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590-0001.
- Hand Delivery: Deliver to the “Mail” address between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> or in person at the Docket Operations Office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the foreign authority’s AD, the economic evaluation, any comments received and other information. The street address for the Docket Operations Office (telephone 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

For service information identified in this proposed AD, contact Bell Helicopter Textron, 12,800 Rue de l’Avenir, Mirabel, Quebec J7J1R4; telephone (450) 437-2862 or (800) 363-8023; fax (450) 433-0272; or at <http://www.bellcustomer.com/files/>. You may review service information at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas 76137.

**FOR FURTHER INFORMATION CONTACT:** Matt Wilbanks, Aviation Safety Engineer, Rotorcraft Certification Office, Rotorcraft Directorate, FAA, 2601 Meacham Blvd., Fort Worth, Texas 76137; telephone (817) 222-5110; email [matt.wilbanks@faa.gov](mailto:matt.wilbanks@faa.gov).

## **SUPPLEMENTARY INFORMATION:**

### **Comments Invited**

We invite you to participate in this rulemaking by submitting written comments, data, or views. We also invite comments relating to the economic, environmental, energy, or federalism impacts that might result from adopting the proposals in this document. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. To ensure the docket does not contain duplicate comments, commenters should send only one copy of written comments, or if comments are filed electronically, commenters should submit only one time.

We will file in the docket all comments that we receive, as well as a report summarizing each substantive public contact with FAA personnel concerning this proposed rulemaking. Before acting on this proposal, we will consider all comments we receive on or before the closing date for comments. We will consider comments filed after the comment period has closed if it is possible to do so without incurring expense or delay. We may change this proposal in light of the comments we receive.

### **Discussion**

On November 24, 2010, we published AD 2010-19-51, Amendment 39-16523 (75 FR 71540), for Bell Model 222, 222B, 222U, 230, and 430 helicopters. AD 2010-19-51 requires inspecting parts of the servo actuator for certain conditions and replacing any unairworthy parts before further flight. AD 2010-19-51 was prompted by a collective servo actuator malfunction. A subsequent investigation revealed that the output piston rod assembly had fractured at the threaded end because of corrosion cracking. The investigation also showed a nonconforming grind relief on a separate piston rod. The actions of AD 2010-19-51 were intended to detect

corrosion or a nonconforming piston rod that, if not corrected, could result in the failure of the piston rod, failure of the servo actuator, and subsequent loss of the helicopter.

### **Actions Since Existing AD Was Issued**

Since we issued AD 2010-19-51 (75 FR 71540, November 24, 2010), Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, issued Canadian AD No. CF-2010-29R1, dated July 26, 2012, to correct an unsafe condition for Bell Model 222, 222B, 222U, 230, and 430 helicopters with servo actuator part number (P/N) 222-382-001-107. TCCA AD No. CF-2010-29R1 supersedes AD No. CF-2010-29, dated August 26, 2010. The original TCCA AD required a one-time inspection of the servo actuator for corrosion or a crack, and if needed, repair of the servo actuator. AD No. CF-2010-29 also set intervals for a required overhaul of the servo actuator, depending on the primer or plating on the piston rod.

TCCA's subsequent AD No. CF-2010-29R1 requires an inspection of the servo actuator and either overhauling or replacing the piston rod with a stainless steel piston rod. Replacement of the piston rod extends the overhaul interval of the servo actuator to 10,000 hours TIS or 10 years, whichever comes first. AD No. CF-2010-29R1 allows different compliance times for overhaul or replacement of the piston rod, depending on the condition of the piston rod when inspected.

### **FAA's Determination**

These helicopters have been approved by the aviation authority of Canada and are approved for operation in the United States. Pursuant to our bilateral agreement with Canada, TCCA, its technical representative, has notified us of the unsafe condition described in its AD. We are proposing this AD because we evaluated all known relevant information and determined that an unsafe condition is likely to exist or develop on other products of the same type design.

## **Related Service Information**

We reviewed Bell Alert Service Bulletin (ASB) 222-11-111 for Model 222 and 222B helicopters, ASB 222U-11-82 for Model 222U helicopters, ASB 230-11-43 for Model 230 helicopters, and ASB 430-11-46 for Model 430 helicopters, all Revision A and all dated June 22, 2012. The ASBs contain, and require compliance with, Woodward HRT Service Bulletin 141600-67-03, dated February 14, 2012, to upgrade the servo actuator by replacing the piston rod and then re-identifying the servo actuator dash number with “-111FM.” The compliance time for upgrading the servo actuator varies depending on the color and amount of corrosion found and type of plating on the piston rod. The Bell ASBs also provide an alternative inspection and procedure for servo actuator P/N 222-382-001-107 which have not reached certain hours TIS and where the servo actuator cannot be upgraded.

TCCA classified these ASBs as mandatory and issued AD No. CF-2010-29R1, dated July 26, 2012, to ensure the continued airworthiness of these helicopters.

## **Proposed AD Requirements**

This proposed AD would supersede AD 2010-19-51, Amendment 39-16523 (75 FR 71540, November 24, 2010) and would require within 5 hours time-in-service (TIS), inspecting servo actuator, P/N 222-382-001-107, using a 10X or higher power magnifying glass to determine whether the piston rod has any pitting or penetration of the base metal.

If the piston rod has pitting or penetration of the base metal, the proposed AD would require, before further flight, replacing the servo actuator with servo actuator P/N 222-382-001-111 or P/N 222-382-001-111FM. Thereafter, the proposed AD would require overhauling servo actuator P/N 222-382-001-111 or P/N 222-382-001-111FM at intervals not to exceed 10 years or 10,000 hours TIS, whichever comes first.

## **Differences Between the Proposed AD and the TCCA AD**

This proposed AD differs from the TCCA AD as follows:

The TCCA AD sets three different timelines or time-in-service requirements for the overhaul or upgrade of the applicable servo actuators, depending on the damage and type of material applied to protect the piston rod.

We would require replacing, before further flight, the piston rod if it has pitting or any penetration of the base metal.

The TCCA AD requires returning parts to the manufacturer, and this proposed AD would not.

## **Costs of Compliance**

We estimate that this proposed AD would affect 146 helicopters of U.S. Registry and that labor costs average \$85 an hour. Based on these estimates, we expect the following costs:

- Inspecting the servo actuators would require 4 work-hours for a labor cost of \$340 per helicopter, and \$49,640 for the U.S. fleet.

- Overhauling the servo actuators would require 8 work-hours for a labor cost of \$680. Parts would cost \$11,900 for a total cost of \$12,580 per helicopter.

- Replacing the servo actuators would require 8 hours work-hours for a labor cost of \$680. Parts would cost \$35,700 for a total cost of \$36,380 per helicopter.

## **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in “Subtitle VII, Part A, Subpart III, Section 44701: General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed, I certify this proposed regulation:

1. Is not a “significant regulatory action” under Executive Order 12866;
2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
3. Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction; and
4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared an economic evaluation of the estimated costs to comply with this proposed AD and placed it in the AD docket.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by removing Amendment 39-16523, 75 FR 71540, and adding the following new airworthiness directive (AD):

**BELL HELICOPTER TEXTRON:** Docket No. FAA-2013-0734; Directorate Identifier 2012-SW-080-AD.

#### **(a) Applicability.**

This AD applies to Bell Helicopter Textron Canada (Bell) Model 222, 222B, 222U, 230, and 430 helicopters, with a main rotor hydraulic servo actuator (servo actuator), part number (P/N) 222-382-001-107, installed, certificated in any category.

#### **(b) Unsafe Condition.**

This AD defines the unsafe condition as pitting or any other penetration of the base metal on the output piston rod assembly. This condition could lead to failure of the piston rod, failure of the servo actuator, and subsequent loss of helicopter control.

#### **(c) Affected ADs.**

This AD supersedes AD 2010-19-51, Amendment 39-16523 (75 FR 71540, November 24, 2010).



**(d) Comments Due Date.**

We must receive comments by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

**(e) Compliance.**

You are responsible for performing each action required by this AD within the specified compliance time unless it has already been accomplished prior to that time.

**(f) Required Actions.**

(1) Within 5 hours time-in-service (TIS), inspect servo actuator, P/N 222-382-001-107, using a 10X or higher power magnifying glass to determine whether the piston rod has any pitting or penetration of the base metal.

(2) If the piston rod has pitting or any penetration of the base metal, replace with servo actuator P/N 222-382-001-111 or P/N 222-382-001-111FM, before further flight. Thereafter, overhaul servo actuator P/N 222-382-001-111 or P/N 222-382-001-111FM at intervals not to exceed 10 years or 10,000 hours TIS, whichever comes first.

**(g) Alternative Methods of Compliance (AMOCs).**

(1) The Manager, Safety Management Group, FAA, may approve AMOCs for this AD. Send your proposal to: Matt Wilbanks, Aviation Safety Engineer, Rotorcraft Certification Office, Rotorcraft Directorate, FAA, 2601 Meacham Blvd., Fort Worth, Texas 76137; telephone (817) 222-5110; email [matt.wilbanks@faa.gov](mailto:matt.wilbanks@faa.gov).

(2) For operations conducted under a 14 CFR part 119 operating certificate or under 14 CFR part 91, subpart K, we suggest that you notify your principal inspector, or lacking a principal inspector, the manager of the local flight standards district office or certificate holding district office before operating any aircraft complying with this AD through an AMOC.

**(h) Additional Information.**

(1) The subject of this AD is addressed in Transport Canada Civil Aviation AD No. CF-2010-29R1, dated July 26, 2012. A copy of this document is available for review in Docket No. FAA-2013-0734 on the Internet at <http://www.regulations.gov>.

(2) Bell Alert Service Bulletin (ASB) No. 222-11-111 for Model 222 and 222B helicopters, ASB No. 222U-11-82 for Model 222U helicopters, ASB No. 230-11-43 for Model 230 helicopters, and ASB No. 430-11-46 for Model 430 helicopters, all Revision A and all dated June 22, 2012, contain information to replace and overhaul the servo actuator. You may review service information at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas 76137.

**(i) Subject.**

Joint Aircraft Service Component (JASC) Code: 6730, Rotorcraft Servo System.  
Issued in Fort Worth, Texas, on August 12, 2013.

Kim Smith,

Directorate Manager, Rotorcraft Directorate,  
Aircraft Certification Service.

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